

INKJET PRINTERS

INTRODUCTION

Inkjet printers are the easiest and most affordable way to get high-quality printing at home. Even a device that costs less than a return train ticket from London to Milton Keynes can print your photos, letters and colour documents. If you are prepared to pay a bit more, you can get an inkjet that prints directly on CDs and produces photos good enough to rival the in-store machines at your local chemist.

Many budget inkjets offer much, but only a few of them deliver in all areas. Some excel at photo printing, but are less impressive when it comes to documents. Others produce high-quality prints, but at frustratingly slow speeds.

Print costs can also be expensive. In some cases, a full set of replacement ink cartridges can cost almost as much as the printer. We've tested nine printers between £31 and £72 to show you which are great value, and which are simply cheap.

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JOIN THE JET SET



Today's inkjets produce high-quality photos and documents at speed, but finding a real bargain can take time. Join the fast track with our round-up of nine printers from £31

Choosing an... Inkjet Printer

All the printers in this Labs less than £75. The biggest difference between the cheapest and most expensive is often added extras. Some printers have bonus features such as CD and duplex printing, but you can get good-quality document and photo prints from an inkjet that costs £50 or less. The most expensive part of owning a budget inkjet is the ink that you'll buy for it over time, so take a look at our cost per page figures in the table on page 102.

JET TECHNOLOGY

Two factors affect the quality of inkjet prints. One is resolution, which is the number of dots per inch (dpi) that the printer can place on the page. The resolution of a printer is important in creating clear, high-quality document prints with crisp lettering. At low resolutions, if you look closely, it's possible to see the dots that make up an individual text character. To create high resolutions, it's sometimes necessary for the print head to move across the same row two or more times. Naturally, this takes more time than a single pass.

The other factor that determines print quality is the number of colours that can be placed on an individual printed pixel (dot). The smaller the size of the colour droplets produced by the printer, the more of these it

can place on to a single dot. This means a single dot can be made up of several different colours, which allows more subtle tones and gradations of colour to be created. This is particularly important if you're going to be printing a lot of photos. The dpi and colour droplet figures for each printer can be found in the table.

PHOTOREALISM

Most of the printers in this month's Labs can produce reasonably good quality photo prints, but some are much better suited to it than others. Two of the printers here use a six-colour ink system, which creates photo prints with more accurate colours. Six-ink systems include the usual cyan, magenta, yellow and black cartridges, with the addition of light cyan and light magenta cartridges to allow the production of more subtle shades. Other printers, such as Canon's PIXMA iP4300, come with an extra pigment black cartridge, which is mainly used for text printing, while the dye-based black is saved for photos.

Each printer manufacturer uses a unique ink formula and designs its photographic paper to work with it. Because of this, it's advisable to use the manufacturer's own photo paper to get the best print quality. These printers were supplied with only a handful of sheets of



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Z1320**

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Photosmart D7160**

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photo paper at best, so you must buy separate packs before you do any serious printing.

If you want to print pictures taken on a digital camera, a direct-printing feature can be useful. Four of the printers in the group have a PictBridge USB port, which allows you to print photos from a compatible digital camera without using a PC. HP's Photosmart D7160 also has a memory card reader, which can take a variety of popular digital camera memory card formats.

PRINTING MONEY

Replacing ink cartridges is the most expensive aspect of owning an inkjet. Several inkjet manufacturers produce both high- and low-yield cartridges for some of their printers, although these are most commonly available for two-cartridge ink systems. Low-yield cartridges are usually supplied with the printer when you buy it, and can also be bought separately. High-yield ink cartridges cost a couple of pounds more than their low-yield equivalents, but most of them print over 30 per cent more pages and are better value. Where available, we've used high-yield cartridges to calculate our cost per page figures.

Canon's PIXMA iP4300 and iP4500 have automatic duplexers. This means that they can print on both sides of a piece of paper without your needing to re-insert it manually. This can save time if you want to produce booklets or double-sided leaflets. It's also one way of saving paper, although it does cut down your print speed considerably.

The small print Photo and text quality compared

When it comes to photo printing, all inkjets are far from equal. Some printers in the group can produce outstanding pictures, but others may leave your holiday snaps looking murky or grainy.



▲ Epson's D120 business inkjet isn't designed with photo-printing in mind, and it shows. While this picture doesn't have a grainy texture, the colours are murky and there's a visible purple tint



▲ Canon's PIXMA iP4500 produced some of the best photos in the group. This image is clear and sharp, with accurate colours and no visible graininess

Text printing is more consistent, and all the printers here produced high quality prints at their normal settings. However, the quality of faster draft printing is more variable.

Down the Rabbit-Hole

After was beginning to get very tired of sitting by her sister on the bank, and of having nothing to do, once or twice she had peeped into the book her sister was reading, but it had no pictures or conversations in it, 'and what is

▲ Epson's Stylus D92 costs £40 less than HP's Photosmart D7160, but its draft quality is poor even compared to printers in its own price bracket. It can produce draft prints at a fast 15ppm, but they are very hard to read

Down the Rabbit-Hole

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▲ HP's Photosmart D7160's 18.4 page per minute (ppm) draft mode produces quality that is good enough to use for everyday printing



CANON PIXMA iP1800

★★★★
£31 inc VAT

Canon's PIXMA iP1800 is the cheapest printer here, and one of the smallest. It's less compact than Lexmark's Z1320, though.

There's no output tray, so we had to clear a space on the table in front of the printer for our documents. This worked better than the flimsy low-capacity trays that many budget inkjets have, but it does require extra space and a flat surface to eject paper on to. The printer is easy to install. The installer recommends that you align the print heads, which is a manual process, but it just involves selecting the best result from a simple one-page print test. We found it difficult to load paper into the printer, however, which could be annoying.

The iP1800's print speeds were fairly quick for a cheap printer, and we were pleased with the quality of its prints. Draft prints were clear and easy to read, and the darker lettering in our correspondence-quality documents was sharp and well defined. Our mixed-colour prints were readable, but we were disappointed by slightly fuzzy lettering and muted, speckled blocks of colour. However, they printed faster than colour documents from any other printer in the group under £40.

Our photos were printed with smooth shading and little graininess, and we were impressed by the amount of visible detail. Sadly, the quality of the colour in prints didn't match the level of detail. Dark skies and black backgrounds looked washed out and deep colours lacked intensity. A blue tinge gave flesh tones and light areas a cold appearance.

This printer is the cheapest in the group to buy, but has the highest running costs, and even its black ink cartridges are poor value.

VERDICT

The iP1800 received four stars in *What's New, Shopper* July 2007. It does everything you'd want from a simple printer and is very affordable. However, the cost of replacement ink cartridges is prohibitively high if you plan on printing more than the occasional page. Because its ink prices are higher than those of other printers here, we've given it three stars.

SUMMARY

- ✓ Inexpensive
- ✓ Good-quality document printing
- ✗ Expensive to run

FOUR-COLOUR INKJET 4,800x1,200dpi maximum resolution, USB Hi-Speed interface
PART CODE 1855B008AA
SUPPLIER www.ebuyer.com
DETAILS www.canon.co.uk



LEXMARK Z1320

★★★★
£33 inc VAT



Lexmark's Z1320 is the smallest printer here. It's compact, quiet and easy to use. The start and completion of every print job are announced through your computer speakers by an American voice, along with warnings about ink levels. Fortunately, this can be switched off in the printing status options.

The slim white design is attractive and unobtrusive, but the extendable output tray is fragile and didn't hold on to our prints once they'd come out of the printer. Fewer pages fell on the floor when we closed the tray and let the printer eject paper straight on to the table.

Draft mode produced dark, readable prints, although some characters looked a bit ragged. Normal-quality printing produced more solid letters, though we noticed slightly fuzzy edges in places. Test colour documents were bright and sharp, but some letters had broken edges and there was slight banding on blocks of colour.

Our test photo prints had deep, consistent black tones and clear, bright colours, while detailed areas had accurate shading. A mild yellow tint was visible on pale colours, which gave flesh tones a slightly unnatural appearance. Although our photo prints were richly coloured with deep contrast, they suffered from some graininess. This was particularly noticeable on large areas of a single colour; blue skies in pictures had a speckled appearance. The Z1320's photos were slow to dry, and the finish on some was damaged by coming into contact with other photos before they'd completely dried.

VERDICT

The Z1320 costs slightly more than the PIXMA iP1800, but the quality of its photo printing is better. This is visible when comparing high-contrast images made by the two printers. The Z1320 takes its time to print photos, but has the fastest draft and mono document printing speeds of any under-£40 printer here. We were impressed by the quality of the lettering on our documents, and its print costs are surprisingly reasonable for such an inexpensive printer.

SUMMARY

- ✓ Inexpensive; reasonable print costs
- ✓ Good quality document and photo printing
- ✗ Flimsy output tray

FOUR-COLOUR INKJET 4,800x1,200 maximum resolution, USB Hi-Speed interface
PART CODE 20A0902
SUPPLIER www.lambda-tek.com/componentshop
DETAILS www.lexmark.co.uk



EPSON Stylus D92

★
£34 inc VAT

Epson's Stylus D92 is a small and basic printer. Unlike the similarly priced Lexmark Z1320 and Canon iP1800, the D92 comes with detachable input and output trays. These weren't too bad at retaining paper, but while the trays were sturdy the printer itself felt flimsy. It's the least expensive printer in the group to take four separate ink cartridges. Its mono print costs are fairly low and it costs less to run than Canon's PIXMA iP1800, but it isn't as economical as Lexmark's Z1320.

The Stylus D92 had a very fast draft speed, churning out 15 pages per minute, but the prints it produced were faint, with so many poorly defined and broken characters that documents were barely legible. Printing at normal quality was a vast improvement, with dark, readable lettering. But even when printing a simple mono letter, its print speed was impractically slow. This was even more of a problem in our mixed-colour print test, when we were left waiting almost an hour for a 25-page document to print. Although the quality of the document was impressive, with accurate, well-defined text and blocks of colour, it wasn't worth the wait.

Photo printing was also a time-consuming process, as the printer took over half an hour to print six 6x4in photos. The D92 gave our photos a warm appearance that made skin tones look lifelike, but it didn't produce such good results on images such as landscapes with muted tones and a lot of detail. Colour reproduction was accurate, particularly on areas of bright, clearly defined colour. However, areas of low-contrast detail looked flat and lifeless, and photos looked fuzzy and grainy.

VERDICT

Although the Stylus D92 has a high maximum resolution, we were unimpressed by the quality of its photo printing. The printer is incredibly fast in draft text mode, but draft text is barely readable. The low cost of this printer doesn't make up for its slow print speeds and poor photo and draft printing. Lexmark's Z1320 is much better value.

SUMMARY

- ✓ Inexpensive
- ✗ Very slow document printing
- ✗ Virtually illegible draft prints

FOUR-COLOUR INKJET 5,760x1,440dpi maximum resolution, USB Hi-Speed interface
PART CODE C11C683002
SUPPLIER www.inkraider.co.uk
DETAILS www.epson.co.uk

INKJET PRINTERS



CANON PIXMA iP4300



£50 inc VAT



Canon's PIXMA iP4300 won our Best Buy award in *Labs, Shopper* December 2006. It takes five separate ink cartridges, including both pigment black for document printing and dye-based black for photographs. There is a rear paper input and a lower storage cassette, which each hold 150 sheets of A4. However, we found it slightly fiddly to load paper into the rear tray correctly. Although the output tray looked flimsy, it held our prints securely. There's also a PictBridge port that allows you to print photos directly from a digital camera.

The iP4300's normal-quality text mode produced sharp, dark lettering, and we were impressed by its print speed, which equals that of many laser printers. Its draft-quality speed was also fast, but although the draft text was still sharp, it wasn't quite as dark as we would have liked. Print speed in our mixed colour test was excellent, and the documents had dark, well-defined colours and clear black text.

The iP4300 produced high-quality photo prints at high speed. We were pleased with the print quality of our picture of a clear summer sky and how well the printer coped with bright colours. It also produced deep black tones, and accurate prints of detailed images with little graininess. Skin tones and bright colours were slightly oversaturated in places, and a yellow tint detracted from the realism of some photos.

Unusually for such an inexpensive printer, the iP4300 includes an automatic duplex unit. Duplex printing produced professional-looking results, but took over three times longer than normal draft mode.

VERDICT

This is a good all-round printer. It can print high-quality documents quickly and printed impressive photos in similarly fast times. Although it has the joint-highest resolution in the group, the photos it produced lacked the precision and accurate colours of Epson's R285 or Canon's PIXMA iP4500's prints. Still, its low price, affordable running costs and fast speeds make the PIXMA iP4300 our Best Buy.

SUMMARY

- ☒ Inexpensive; reasonable print costs
- ☒ Good-quality photo printing
- ☒ Fast document printing

FIVE-COLOUR INKJET 9,600x2,400dpi maximum resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE 1438B008AA
SUPPLIER www.redsave.com
DETAILS www.canon.co.uk



CANON PIXMA iP3500



£52 inc VAT

Canon's PIXMA iP3500 looks similar to the PIXMA iP4300, but it has a lower specification. It has two paper trays, but we found it particularly difficult to insert paper into the rear input. The lower cassette was easier to load and is also a more protected place to keep photographic paper.

A PictBridge port allows you to print directly from a digital camera, and the printer comes with a special tray to let you print on printable CDs. The print head is packaged separately and must be inserted before you can put in the ink cartridges, but it's a simple process. The iP3500 uses four separate ink cartridges, which are easy to load, but it doesn't have a separate pigment black cartridge for document printing like the iP4300.

The iP3500 didn't have particularly fast print speeds, but it produced excellent-quality prints even in draft mode, and its letter-quality documents were dark and well defined. Its mixed-colour prints were also clear and dark, although we noticed horizontal stripes in large areas of dark colour.

Its photo printing was not so consistently good, though it produced bright, vivid colours. Black backgrounds looked faded and skin tones were unrealistic. While most of our pictures didn't suffer from a grainy texture, we noticed a slightly speckled effect on very detailed areas and on our picture of a clear blue sky. While most light colours didn't particularly suffer from unwanted colour tints, we found that white areas looked cream-coloured.

VERDICT

Canon's iP3500 isn't a bad printer, but its failings are more visible when you compare it to the iP4300. It's slightly more expensive than the iP4300 and its print costs are higher. The iP3500 produced good-quality document prints in both mono and colour, but neither its print speeds nor the quality of the photos it produces were as impressive as its more affordable sibling. It also doesn't have an automatic duplexer, so it cannot match the iP4300 for value.

SUMMARY

- ☒ High-quality document printing
- ☒ Relatively poor value
- ☒ Pale black tones on photos

FOUR-COLOUR INKJET 4,800x1,200dpi maximum resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE 2170B008AA
SUPPLIER www.oxy.co.uk
DETAILS www.canon.co.uk



EPSON Stylus Photo R285



£60 inc VAT

Epson's Stylus Photo R285 uses the same six-ink Claria system as the company's more expensive photo printers, so it's not surprising that we were impressed by the quality of the photos it produced. They were sharp, detailed and accurately coloured. Thanks to excellent contrast, dark colours stood out starkly against lighter areas. Skin tones were lifelike, and subtle shading and detail was rendered accurately. There was no visible graininess or speckling on any images. The colouring in some images was slightly cold compared to photos produced on Canon's PIXMA iP4500, but the R285 produced generally smoother and more detailed prints.

The R285 was less impressive when printing text. Its draft print speed was very fast, but although it produced readable prints, they were pale with poorly defined lettering. Its letter-quality print speed was slow, but the prints it produced were dark and clear. The edges of some characters were imprecise. Its print speed in our mixed-colour document print test was fast, but while the text was clear, dark blocks of colour in images were pale and slightly speckled.

The printer's six ink cartridges were easy to install. It has one rear paper tray, but it's easier to load than those of Canon's PIXMA range. Its output tray holds most prints securely, but a couple of pages fell on the floor as they shot out in the fast draft mode. The R285 can print directly on to specialist CDs, but doesn't have a PictBridge port or any other direct-printing capability. The print heads got clogged after printing on one occasion, but the driver-controlled head-cleaning routine fixed this.

VERDICT

If you're mainly interested in printing photos, this printer is ideal. The quality is the best of any printer here, though the PIXMA iP4500 comes close. Like many of Epson's photo-oriented printers, it's less well suited to document printing. It makes a good job of correspondence-quality letters, but it's not very fast, and its mixed-colour document printing doesn't match its photo printing. For everyday use, Canon's PIXMA iP4300 is better value.

SUMMARY

- ☒ Excellent photo quality
- ☒ Easy to load and use
- ☒ Slow document printing

SIX-COLOUR INKJET 5,760x1,440dpi maximum resolution, USB Hi-Speed interface
PART CODE C11C691301
SUPPLIER www.lambda-tek.com/componentsshop
DETAILS www.epson.co.uk





EPSON Stylus D120

★★★★

£63 inc VAT

Epson's Stylus D120 business inkjet looks and feels like a larger version of the D92. It has a single rear-loading paper tray, which can take up to 120 sheets of A4. Sadly, the extendable output tray is flimsy and unable to hold on to more than a few pages at a time. The printer comes with two black ink cartridges, which can be inserted at the same time. This makes it less likely that you'll run out of ink in the middle of printing a long document.

The D120 isn't designed to be a high-quality photo printer, and although its photo prints had hardly any graininess their overall quality was disappointing. The prints' colours weren't as accurate as those produced by Epson's Stylus Photo R285 or HP's Photosmart D7160. Black tones were fairly good, but we noticed a purple tint on our photos. This was particularly noticeable on pictures with a lot of dark, earthy tones, and made them appear murky and underexposed. The effect was also visible on brightly coloured images, making some shades appear muted or discoloured.

The D120's draft text print speed was very quick, but the prints were full of broken characters, which could be difficult to read. Its normal text print speed was the fastest in the group, and faster than many of the printers' draft speeds. The resulting correspondence-quality text was dense and black, with no rough edges. We were also impressed by the quality of our mixed-colour documents, which had sharp and dark black text, and accurate colours on both images and text. However, colour documents printed very slowly.

VERDICT

The D120 is incredibly fast when printing correspondence-quality text and its black ink costs are fairly low. However, its photo printing is poor and its printing doesn't have the all-round quality of Canon's PIXMA iP4300. Even so, its text printing is by far the fastest in the group. The D120 is well-suited to printing large numbers of text documents in an office or home office environment, but the iP4300 is a better choice for a home printer.

SUMMARY

- ✓ Fast, high-quality text printing
- ✗ No good for printing photos
- ✗ Expensive to run

FOUR-COLOUR INKJET 5,760x1,440dpi maximum resolution, USB Hi-Speed interface
PART CODE C11C687301
SUPPLIER www.amazon.co.uk
DETAILS www.epson.co.uk



CANON PIXMA iP4500

★★★★★

£66 inc VAT

Canon's new PIXMA iP4500 is similar to the iP4300. It has the same ink system, with three colour cartridges and both pigment and dye-based black inks. Like the iP4300, it has an automatic duplex function and the ability to print on CDs. It's more sturdily built than the PIXMA iP1800 and has a glossy black finish rather than a matt grey exterior, but its styling and build quality are otherwise virtually identical to the iP4300's.

The iP4500 had almost exactly the same scores in our print tests as Canon's older printer, although it was slightly faster at printing photos and slightly slower at printing correspondence-quality letters. There was no visible difference between documents printed by the iP4500 and the iP4300. However, the photos produced by this printer were excellent and more accurately captured subtle shades of colour than those printed by the iP4300.

Its draft mode produced legible prints that weren't too pale, although some characters looked frayed around the edges. Normal-quality text printing quickly produced dark, clear documents with well-defined characters. Mixed-colour document prints were excellent, with accurate hues, clear lettering and very little speckling on large blocks of colour.

Printed photos looked great, with warm, accurate colours. Prints had smooth shading with minimal visible graininess, and skin tones looked realistic. The images weren't quite as sharp as the R285's photos, but their colouring was warmer. We were impressed by the contrast and clarity of images, which had deeply coloured dark areas and vivid light tones. There was none of the oversaturated effect we saw in prints from the iP4300.

VERDICT

Canon's iP4500 is one of the two best photo printers in the group, along with Epson's Stylus Photo R285. It's an excellent all-round printer, with fast print speeds and high-quality document printing. However, it's also one of the more expensive printers here and so it falls just short of being our Best Buy.

SUMMARY

- ✓ Good-quality document printing
- ✓ Excellent photo prints with warm colours
- ✗ Fairly expensive

FIVE-COLOUR INKJET 9,600x2,400dpi maximum resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE 2171B008AA
SUPPLIER www.morecomputers.co.uk
DETAILS www.canon.co.uk



HP Photosmart D7160

★★★★★

£72 inc VAT

HP's Photosmart D7160 is the only printer here with a full range of readers for a variety of memory cards as well as a PictBridge port. It has a 2½in colour screen and a simple interface which allows you to select, preview, and print images directly from the memory cards. Its PictBridge port lets you print photos directly from a digital camera with PictBridge support.

It looks good and feels well made. The paper tray is easy to load with A4 sheets and 6x4in photographic paper, and you can have both loaded at the same time. The D7160 uses HP's six-colour Vivera ink system, but the quality of its photo printing wasn't up to that of Epson's six-colour Stylus Photo R285.

It is a good photo printer, producing images with rich, deep blacks and realistic flesh tones. There's no visible graininess, and the colours on most of our prints were bright and lifelike. We noticed a slight blue tint, which wasn't enough to affect the reproduction of skin tones, but made images with a lot of grey and brown tones look murky.

The D7160's draft text print speed was fast in our tests, and text was fairly dark and easy to read, though a few letters looked slightly jagged on close examination. The lettering on normal-quality text prints was dark and clearly defined, though its print speed wasn't particularly fast. It had one of the fastest mixed colour print speeds in the group, with generally good print quality, although large blocks of black colour looked faded.

VERDICT

We gave the D7160 five stars when we reviewed it in *What's New, Shopper* January 2007, but the competition has come on a lot since. It has consistently good print quality. Photo printing is good, but not outstanding, and the speed of its normal-quality document printing is only half that of Canon's less expensive PIXMA iP4300. Its draft print quality is outstanding and is easily good enough for everyday printing. It is easy to use and install, but its print costs are among the highest in the group, so it falls just short of the full five stars.

SUMMARY

- ✓ Wide range of direct print ports
- ✓ Fast draft and mixed-colour printing
- ✗ Expensive to buy and run

SIX-COLOUR INKJET 4,800x1,200dpi maximum resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE Q7047B
SUPPLIER www.ameiva.co.uk
DETAILS www.hp.co.uk



INKJET PRINTERS

		BUDGET BUY		BEST BUY					
MANUFACTURER	CANON	LEXMARK	EPSON	CANON	CANON	EPSON	EPSON	CANON	HP
Model	PIXMA iP1800	Z1320	Stylus D92	PIXMA iP4300	PIXMA iP3500	Stylus Photo R285	Stylus D120	PIXMA iP4500	PhotoSmart D7160
Rating	★★★	★★★★	★	★★★★★	★★	★★★★	★★★	★★★★	★★★★
QUOTED SPEEDS									
Quoted A4 speed, mono	20ppm	22ppm	25ppm	30ppm	25ppm	37ppm	37ppm	31ppm	32ppm
Quoted A4 speed, colour	16ppm	16ppm	13ppm	24ppm	17ppm	38ppm	20ppm	24ppm	31ppm
TESTED SPEEDS									
Test 1, 50-page text document	5m 37s (8.9ppm)	4m 37s (10.8ppm)	3m 20s (15.0ppm)	2m 56s (17.0ppm)	5m 15s (9.5ppm)	2m 13s (22.6ppm)	2m 27s (20.4ppm)	2m 56s (17.0ppm)	2m 43s (18.4ppm)
Test 1 duplex, 50-page text document	N/A	N/A	N/A	9m 59s (5.0ppm)	N/A	N/A	N/A	9m 54s (5.1ppm)	N/A
Test 2, letter, time to first page	21s	14s	24s	13s	10s	17s	22s	14s	18s
Test 2, letter, total time for 50 copies	7m 32s (6.6ppm)	6m 28s (7.7ppm)	6m 28s (2.7ppm)	5m 1s (10.0ppm)	7m 42s (6.5ppm)	10m 13s (4.9ppm)	3m 22s (14.9ppm)	5m 10s (9.7ppm)	10m 0s (5.0ppm)
Test 3, mixed colour	15m 38s (1.5ppm)	26m 45s (0.9ppm)	51m 29s (0.5ppm)	9m 10s (2.6ppm)	10m 45s (2.2ppm)	7m 9s (3.4ppm)	26m 56s (0.9ppm)	9m 2s (2.7ppm)	10m 8s (2.4ppm)
Test 4, two 10x8in photos	7m 55s	10m 13s	19m 59s	3m 44s	5m 26s	7m 21s	10m 12s	3m 14s	5m 21s
Test 5, six 6x4in photos	13m 56s	15m 23s	33m 27s	6m 35s	5m 26s	9m 54s	20m 20s	5m 33s	13m 15s
Test 6, six 6x4in photos, direct print	N/A	N/A	N/A	7m 56s (PictBridge)	8m 48s (PictBridge)	N/A	N/A	5m 49s (PictBridge)	8m 37s (SD card)
PRINT QUALITY									
Maximum resolution	4,800x1,200dpi	4,800x1,200dpi	5,760x1,440dpi	9,600x2,400dpi	4,800x1,200dpi	5,760x1,440dpi	5,760x1,440dpi	9,600x2,400dpi	4,800x1,200dpi
Minimum colour droplet size	2pl	Not disclosed	4pl	1pl	2pl	1.5pl	3pl	1pl	5.5pl
Number of colours (cartridges)	4 (2)	4 (2)	4 (4)	4 (5)	4 (4)	6 (6)	4 (4)	5 (6)	6 (6)
Maximum number of colours (cartridges)	4 (2)	6 (2)	4 (4)	4 (5)	4 (4)	6 (6)	4 (4)	5 (6)	6 (6)
Quoted photo durability (source)	30 years (Canon)	65 years (Lexmark)	52 years (Wilhelm Imaging Research)	30 years (Canon)	30 years (Canon)	98 years (Wilhelm Imaging Research)	52 years (Wilhelm Imaging Research)	30 years (Canon)	108 years (Wilhelm Imaging Research)
PHYSICAL AND ENVIRONMENTAL									
Standard interfaces	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed	USB Hi-Speed	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB
Optional interfaces	None	None	None	None	None	None	None	None	Bluetooth wireless
Dimensions (HxWxD)	152x442x237	121x429x213mm	165x435x219	160x445x303	145x436x302	288x450x282	161x435x240	160x445x303	236x463x500
Weight	3.3kg	2.3kg	2.8kg	6.5kg	4.9kg	5.4kg	3.9kg	6.9kg	7.7kg
Noise	49dB(A)	52dB(A)	45dB(A)	34dB(A)	36.5dB(A)	36dB(A)	39dB(A)	34.5dB(A)	6dB(A)
Duty cycle (pages per month)	Not disclosed	3000 pages	Not disclosed	Not disclosed	Not disclosed	Not disclosed	Not disclosed	Not disclosed	3000 pages
Power consumption printing	7W	Not disclosed	10W	11W	11W	12W	15W	13W	6W
Power consumption sleep mode	1W	Not disclosed	2W	1W	1W	1W	2W	1W	5W
PAPER HANDLING									
Maximum paper size	A4	A4/legal	A4	A4/legal	A4	A4	A4	A4/legal	A4
Maximum paper weight	273gsm	240gsm	300gsm	273gsm	273gsm	300gsm	300gsm	273gsm	210gsm
Standard paper trays (capacity)	1 (100)	1 (100)	1 (80)	2 (300)	2 (250)	1 (120)	1 (120)	2 (300)	2 (100)
Maximum paper trays (capacity)	1 (100)	1 (100)	1 (80)	2 (300)	2 (250)	1 (120)	1 (120)	2 (300)	2 (100)
Duplex	None	None	None	Yes	None	None	None	Yes	Q5582A (£30)
PHOTO FEATURES									
Exif support	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
PictBridge support	No	No	No	No	Yes	No	No	Yes	Yes
Borderless printing	A4, 20x25cm, 13x18cm, 10x18cm, 10x15cm, credit card	Hagaki, 3.5inx5in, 4inx6in, 4inx8in, 10x20 cm, 10x15 cm, 5inx7in, 13x18 cm, L and 2L	Up to A4	A4, 20x25cm, 13x18cm, 10x18cm, 10x15cm, credit card	A4, 20x25cm, 13x18cm, 10x18cm, 10x15cm, credit card	Up to A4	Up to A4	A4, 200x250mm, 130x180mm, 100x150mm, credit card	Up to A4
Direct (PC-less) printing	No	No	No	Yes	Yes	No	No	Yes	Yes
Memory card support	None	None	None	None	None	None	None	None	CompactFlash, Secure Digital, MultiMedia Card, Memory Stick, Memory Stick Duo, Smart Media, xD
CD printing	No	No	No	Yes	Yes	Yes	No	Yes	Yes
GENERAL									
Technology	Thermal inkjet	Thermal inkjet	Piezo inkjet	Thermal inkjet	Thermal inkjet	Piezo inkjet	Piezo inkjet	Thermal inkjet	Thermal inkjet
Supported operating systems	Windows 2000/XP/Vista	Windows 2000/XP/x64/Vista	Windows 98/Me/2000/XP/XP-x64/Vista	Windows 98/Me/2000/XP/Vista	Windows 2000/XP/Vista	Windows 98/Me/2000/XP/XP-x64/Vista	Windows 98/Me/2000/XP/XP-x64/Vista	Windows 2000/XP/Vista	Windows 2000/XP/XP-x64/Vista
Other features	None	None	None	None	None	None	Automatic head alignment	Automatic head alignment	2.7in colour screen, automatic head alignment
Other options	Paper thickness switch	Photo 31 photographic cartridge available (£17)	None	None	None	None	None	None	HP Standard Exchange, HW Support, three year (UG186E, £31)
BUYING INFORMATION									
Price including VAT	£31	£33	£34	£50	£52	£60	£63	£66	£72
Quoted life of supplied black cartridge(s)	220 pages (ISO/IEC 24712)	175 pages (ISO/IEC 24712)	250 pages (ISO/IEC 24712)	520 pages (ISO/IEC 24712), plus 5,220 estimated supplemental pages from CLI-8BK dye-based black (Canon)	510 pages (ISO/IEC 24712)	330 pages (ISO/IEC 24712)	740 pages (ISO/IEC 24712)	PGI-5BK 520 pages (ISO/IEC 24712), CLI-8BK 5,475 pages estimated (Canon)	410 pages (ISO/IEC 24712)
Quoted life of supplied colour cartridge(s)	205 pages (ISO/IEC 24712)	150 pages (ISO/IEC 24712)	Cyan 495, magenta 280, yellow 480 pages (ISO/IEC 24712)	Cyan 890, magenta 670, yellow 700 pages (ISO/IEC 24712)	Cyan 900, magenta 675, yellow 690 pages (ISO/IEC 24712)	Cyan 935, magenta 460, yellow 520 pages (ISO/IEC 24712)	Cyan 425, magenta 290, yellow 370 pages (ISO/IEC 24712)	Cyan 935, magenta 715, yellow 750 pages (ISO/IEC 24712)	Cyan 410, magenta 370, yellow 500 (ISO/IEC 24712), light cyan 9,900, light magenta 9,200 (HP estimates)
Quoted life of supplied photo cartridge(s)	N/A	N/A	N/A	N/A	3,740 6x4in photos (black), 433 6x4in photos (cyan), 284 6x4in photos (magenta), 291 6x4in photos (yellow)	N/A	N/A	N/A	N/A
Cost per ISO/IEC 24712 A4 page including VAT	7.5p	5.5p	5.9p	4.7p	5.7p	6.2p	6.5p	4p	6.9p
Cost per ISO/IEC 24712 A4 page including VAT (colour part)	4.5p	3p	3.8p	3.4p	3.1p	4.7p	5.2p	3.8p	5.6p
Cost per ISO/IEC 24712 A4 page including VAT (mono part)	3p	2.5p	2.1p	1.3p	2.6p	1.5p	1.3p	0.2p	1.3p
Warranty duration and terms	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB	One year RTB
Supplier	www.ebuyer.com	www.lambda-tek.com/componentshop	www.inkraider.co.uk	www.redsave.com	www.ojyy.co.uk	www.lambda-tek.com/componentshop	www.amazon.co.uk	www.morecomputers.co.uk	www.ameiva.co.uk
Details	www.canon.co.uk	www.lexmark.co.uk	www.epson.co.uk	www.canon.co.uk	www.canon.co.uk	www.epson.co.uk	www.epson.co.uk	www.canon.co.uk	www.hp.co.uk
Part code	1855B008AA	20A0902	C11C683002	1438B008AA	2170B008AA	C11C691301	C11C687301	2171B008AA	Q7047B

Labs verdict Inkjet printers

We were impressed by the generally high quality of the budget inkjets in this month's Labs. Even the cheapest printers performed well. Lexmark's tiny Z1320 produced good-quality prints at faster speeds and lower costs than many of the more expensive printers here. It's our Budget Buy.

At the more expensive end, there are plenty of printers to choose from. Some were very good at printing photos, such as Epson's Stylus Photo

R285. Others, like Epson's Stylus D120, excelled at document printing. But none had the combination of low running costs and excellent all-round print quality that we were looking for.

Although Canon's PIXMA iP4500 produced the best all-round results, they were only a bit better than the iP4300's, which is £16 cheaper. The iP4300 produces excellent document and photo prints and is very good value. It's our Best Buy. **ES**



LEXMARK
Z1320
★★★★★



CANON
PIXMA
iP4300
★★★★★

